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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/911,087	07/24/2001	Christopher D. Ruppel	DP-303443	4010
22851	7590	06/09/2004	EXAMINER	
DELPHI TECHNOLOGIES, INC.			TRINH, TAN H	
M/C 480-410-202			ART UNIT	
PO BOX 5052			PAPER NUMBER	
TROY, MI 48007			2684	
DATE MAILED: 06/09/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/911,087

Applicant(s)

RUPPEL ET AL.

Examiner

TAN TRINH

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4 & 5.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed on 7-24-2001 and 11-24-2003 has been received and placed of record in the file.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 10 and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Chang (U.S. Patent No.20040087271).

Regarding claims 1 and 23, Chang teaches a method for improving signal processing of a mobile receiver located in a vehicle in the presence of multipath distortion (see fig. 4, and fig.14, page 5, session [0064], page 6, session [0079]), the method comprising the steps of: determining a speed of the vehicle (see page 6, session [0079], lines 4-7); collecting signal information on a selected received signal that is received by the mobile receiver (see page 6, session [0079]), the collected signal information providing an indication of the quality of the received signal (see page 6, session [0079], lines 11-12); and modifying at least one time constant associated with processing of the collected signal information responsive to the determined speed (see page 6, session [0079]).

Regarding claim 10, Chang teaches a mobile receiver that exhibits improved signal processing in the presence of multipath distortion (see fig. 4, and fig. 14, page 5, session [0064], page 6, session [0079]), the mobile receiver being located within a vehicle (see fig. 1, vehicle 14 and mobile receiver 12, page 3, session [0039] and page 5, session [0064]), the mobile receiver comprising: a tuner module (see fig. 14, receiver 150 and items 152 and 154); a signal quality circuit coupled to the tuner module (see fig. 14, item 156, page 5, session [0069]); a memory subsystem for storing information (Chang inherently teach a memory subsystem, since The DSP 156 and Master processor 158 contain the memory so that the processor can be processing the data... or see page 5, session [0065] on storage data, line 7); and a processor coupled to the memory subsystem and the signal quality circuit (see fig. 14, the DSP 156 or 1544 internal coupled with memory subsystem, and coupled with signal quality circuit (time adjust detection or loop filter) or local master processor 158, coupled with internal memory subsystem (see page 5, session [0065] on storage data, line 7) and coupled the signal quality circuit 156); the processor executing code for causing the processor to perform (see page 5, session [0065]) the steps of: determining a speed of the vehicle (see page 6, session [0079], lines 4-7); collecting signal information on a selected signal received by the mobile receiver (see page 6, session [0079]), wherein the collected signal information is provided by the signal quality circuit and provides an indication of the quality of the received signal (see page 6, session [0079], lines 11-12), and modifying at least one time constant associated with processing of the collected signal information responsive to the determined speed (see page 6, session [0079]).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2-5, 8-9, 11-14, 17-19, 21-22 and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang (U.S. Patent No.20040087271) in view of Breed (U.S. Pub. No.20040039509).

Regarding claim 19, Chang teaches an automotive subsystem that includes a mobile receiver that exhibits improved signal processing in the presence of multipath distortion (see fig. 4, and fig. 14, page 5, session [0064], page 6, session [0079]), the mobile receiver being located within a motor vehicle (see fig. 1, vehicle 14 and mobile receiver 12, page 3, session [0039] and page 5, session [0064]), the mobile receiver comprising: a tuner module (see fig. 14, receiver 150 and items 152 and 154); a signal quality circuit coupled to the tuner module (see fig. 14, item 156, page 5, session [0069]); a memory subsystem for storing information (Chang inherently teach a memory subsystem, since The DSP 156 and Master processor 158 contain the memory so that the processor can be processing the data... or see page 5, session [0065] on storage data, line 7), the processor executing code for causing the processor to perform (see page 5, session [0065]) the steps of: determining a speed of the vehicle (see page 6, session [0079], lines 4-7); collecting signal information on a selected signal received by the mobile receiver (see page 6,

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session [0079]), wherein the collected signal information is provided by the signal quality circuit and provides an indication of the quality of the received signal (see page 6, session [0079], lines 11-12); and modifying at least one time constant associated with processing of the collected signal information responsive to the determined speed (see page 6, session [0079]). But Chang fails to teaches at least one of a vehicle sensor and a ground positioning system (GPS) receiver for providing an indication of the speed of the vehicle; and a processor coupled to the memory subsystem, the signal quality circuit and the at least one of a vehicle sensor and a ground positioning system (GPS) receiver.

However, Breed teaches at least one of a vehicle sensor (see fig. 5, and page 17 session [0258, 283 and 293]), and a ground positioning system (GPS) receiver (see page 39, session [0510-0511]), for providing an indication of the speed of the vehicle; and a processor coupled to the memory subsystem, the signal quality circuit and the at least one of a vehicle sensor and a ground positioning system (GPS) receiver (see figs. 8, 10 and 12 and page 22, session [0326], lines 12-37).

Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Chang system and by the teaching of Breed on the vehicle sensor and (GPS) receiver thereto in order to provide processor to determine the speed of vehicle using the sensor or the speed of the vehicle is determined from position locations provided by a ground positioning system (GPS) receiver (see page 39, session [0510-0511]).

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Regarding claims 2, 11 and 24, Chang fails to teach the speed of the vehicle is provided by a vehicle sensor.

However, Breed teaches the speed of the vehicle is provided by a vehicle sensor (see fig. 5, and page 17 session [0258, 283 and 293]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Chang system and by the teaching of Breed on the vehicle sensor thereto in order to provide processor to determine the speed of vehicle using the sensor.

Regarding claims 3, 12 and 25, Chang fails to teach wherein the speed of the vehicle is determined from position locations provided by a ground positioning system (GPS) receiver.

However, Breed teaches the wherein the speed of the vehicle is determined from position locations provided by a ground positioning system (GPS) receiver (see page 39, session [0510-0511]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Chang system and by the teaching of Breed on GPS in vehicle thereto in order to provide user the location of the vehicle.

Regarding claims 4, 13, 20 and 26, Chang teaches wherein the collected signal information is provided by a signal quality circuit and wherein the at least one time constant includes an attack time and a decay time of the signal quality circuit (see fig. 14, page 6, session [0079]). Since Chang teaches the use of velocity and orientation information allows the use of

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large tracking/loop time constants to minimize jitter and reduce the effect of during vehicle operation, that is obvious the at least one time constant includes an attack time and a decay time.

Regarding claims 5 and 14, Chang teaches wherein a length of the at least one time constant is inversely proportional to the speed of the vehicle (see page 6, session [0079], lines 9-21)

Regarding claims 8 and 17, Chang teaches wherein the collected signal information is provided by a signal quality circuit that includes at least one of an average detector, a peak detector and a full-wave detector (see fig. 14, loop filters 184, symbol detector 186 and time detection filter 178). That is obvious to the at least one of an average detector, a peak detector and a full-wave detector.

Regarding claims 9, 18 and 22, Chang teaches wherein at least one output of the at least one of an average detector, a peak detector and a full-wave detector is utilized to initiate at least one of a soft-mute, a high-cut and a stereo noise control function (see fig. 14 and page 6, session [0079]). That is obvious to the at least one of a soft-mute, a high-cut and a stereo noise control function.

6. Claims 6-7 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang (U.S. Patent No.20040087271) in view of Ugari (U.S. Patent No. 4,416,024).

Regarding claims 6 and 15, Chang fails to teach wherein the collected signal information provides an indication of an ultrasonic noise (USN) level associated with the received signal.

However, Ugari teaches the collected signal information provides an indication of an ultrasonic noise (USN) level associated with the received signal (see fig. 3, col. 11, lines 24-54 and col. 15, lines 24-30).

Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Chang system and by the teaching of Ugari on auditory sense noise and low frequency noise thereto in order to provide user to collected signal information.

Regarding claims 7 and 16, Chang teaches wherein the collected signal information also provides an indication of a wideband amplitude modulation (WBAM) level associated with the received signal (see fig. 14, page 5, session [0064]).

7. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chang (U.S. Patent No. 20040087271) in view of Breed (U.S. Pub. No. 20040039509) further in view of Ugari (U.S. Patent No. 4,416,024).

Regarding claim 21, Chang or Breed fails to teach wherein the collected signal information provides an indication of an ultrasonic noise (USN) level associated with the received signal.

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However, Ugari teaches the collected signal information provides an indication of an ultrasonic noise (USN) level associated with the received signal (see fig. 3, col. 11, lines 24-54 and col. 15, lines 24-30).

Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Chang and Breed system and by the teaching of Ugari on auditory sense noise and low frequency noise thereto in order to provide user to collected signal information.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Cvetkovic (U.S. Patent No. 6,141,536) discloses diversity radio system with RDS.

Rambo (U.S. Patent No. 4,499,606) discloses receiver enhancement in mobile FM broadcast receivers and the like.

Yoneyama (U.S. Patent No. 5,428,359) discloses Doppler-effect vehicle speed sensor using different speed determining rules depending upon receiver output.

9. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314, (for Technology Center 2600 only)

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*Hand-delivered responses should be brought to Crystal Park II,
2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).*

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tan Trinh whose telephone number is (703) 305-5622. The examiner can normally be reached on Monday-Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung, can be reached at (703) 308-7745.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **Technology Center 2600 Customer Service Office** whose telephone number is **(703) 306-0377**.

Tan H. Trinh
Art Unit 2684
May 25, 2004



**NICK CORSARO
PATENT EXAMINER**